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☐ 1: P10719. ATP synthase beta...[gi:114562]

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LOCUS ATPB_RAT 529 aa linear ROD 15-JUN-2002
 DEFINITION ATP synthase beta chain, mitochondrial precursor.
 ACCESSION P10719
 VERSION P10719 GI:114562
 DBSOURCE swissprot: locus ATPB_RAT, accession P10719;
 class: standard.
 created: Jul 1, 1989.
 sequence updated: Apr 1, 1990.
 annotation updated: Jun 15, 2002.
 xrefs: gi: [601866](#), gi: [601867](#), gi: [205539](#), gi: [1374715](#), gi: [203032](#),
 gi: [203033](#), gi: [92350](#), gi: [92349](#), gi: [111746](#), pdb accession [1MAB](#)
 xrefs (non-sequence databases): HSC-2DPAGE P10719, InterPro
 IPR000793, InterPro IPR004100, InterPro IPR000194, Pfam PF00006,
 Pfam PF00306, Pfam PF02874, PROSITE PS00152
 KEYWORDS ATP synthesis; CF(1); Hydrogen ion transport; Hydrolase;
 ATP-binding; Mitochondrion; Transit peptide; 3D-structure.
 SOURCE Rattus norvegicus.
 ORGANISM Rattus norvegicus
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae;
 Rattus.
 REFERENCE 1 (residues 1 to 529)
 AUTHORS Boulet,D., Poirier,J. and Cote,C.
 TITLE Studies on the biogenesis of the mammalian ATP synthase complex:
 isolation and characterization of a full-length cDNA encoding the
 rat F1-beta-subunit
 JOURNAL Biochem. Biophys. Res. Commun. 159 (3), 1184-1190 (1989)
 MEDLINE [89193709](#)
 PUBMED [2522775](#)
 REMARK SEQUENCE OF 1-60 FROM N.A.
 REFERENCE 2 (residues 1 to 529)
 AUTHORS Garboczi,D.N., Fox,A.H., Gerring,S.L. and Pedersen,P.L.
 TITLE Beta subunit of rat liver mitochondrial ATP synthase: cDNA cloning,
 amino acid sequence, expression in Escherichia coli, and structural
 relationship to adenylate kinase
 JOURNAL Biochemistry 27 (2), 553-560 (1988)
 MEDLINE [88163632](#)
 PUBMED [2894849](#)
 REMARK SEQUENCE OF 58-529 FROM N.A.
 REFERENCE 3 (residues 1 to 529)
 AUTHORS Lee,Y.M., Chu,L.P. and Lee,S.C.
 TITLE Molecular cloning of cDNA for the rat F1-ATPase beta subunit
 JOURNAL Taiwan I Hsueh Hui Tsa Chih 87 (10), 933-938 (1988)
 MEDLINE [89198923](#)
 PUBMED [2907347](#)
 REMARK SEQUENCE OF 172-529 FROM N.A.
 REFERENCE 4 (residues 1 to 529)

AUTHORS Cretin,F., Baggetto,L.G., Denoroy,L. and Godinot,C.
 TITLE N-terminal sequence of the rat liver beta-subunit in the
 mitochondrial ATPase-ATPsynthase
 JOURNAL Biochem. Biophys. Res. Commun. 164 (3), 1165-1169 (1989)
 MEDLINE 90073643
 PUBMED 2531579
 REMARK SEQUENCE OF 47-60.
 REFERENCE 5 (residues 1 to 529)
 AUTHORS Bianchet,M.A., Hüllihen,J., Pedersen,P.L. and Amzel,L.M.
 TITLE The 2.8-A structure of rat liver F1-ATPase: configuration of a
 critical intermediate in ATP synthesis/hydrolysis
 JOURNAL Proc. Natl. Acad. Sci. U.S.A. 95 (19), 11065-11070 (1998)
 MEDLINE 98409611
 PUBMED 9736690
 REMARK X-RAY CRYSTALLOGRAPHY (2.8 ANGSTROMS).
 COMMENT -----
 This SWISS-PROT entry is copyright. It is produced through a
 collaboration between the Swiss Institute of Bioinformatics and
 the EMBL outstation - the European Bioinformatics Institute.
 The original entry is available from <http://www.expasy.ch/sprot>
 and <http://www.ebi.ac.uk/sprot>

 [FUNCTION] PRODUCES ATP FROM ADP IN THE PRESENCE OF A PROTON
 GRADIENT ACROSS THE MEMBRANE. THE BETA CHAIN IS THE CATALYTIC
 SUBUNIT.
 [CATALYTIC ACTIVITY] ATP + H(2)O + H(+) (In) = ADP + phosphate +
 H(+) (Out).
 [SUBUNIT] F-TYPE ATPASES HAVE 2 COMPONENTS, CF(1) - THE CATALYTIC
 CORE - AND CF(0) - THE MEMBRANE PROTON CHANNEL. CF(1) HAS FIVE
 SUBUNITS: ALPHA(3), BETA(3), GAMMA(1), DELTA(1), EPSILON(1). CF(0)
 HAS THREE MAIN SUBUNITS: A, B AND C.
 [SUBCELLULAR LOCATION] Mitochondrial.
 [SIMILARITY] BELONGS TO THE ATPASE ALPHA/BETA CHAINS FAMILY.
 FEATURES Location/Qualifiers
 source 1..529
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 /db_xref="taxon:10116"
 gene 1..529
 /gene="ATP5B"
 Protein 1..529
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 /EC_number="3.6.3.14"
 Region 1..46
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 /region_name="Transit peptide"
 /note="MITOCHONDRION."
 Region 47..529
 /gene="ATP5B"
 /region_name="Mature chain"
 /note="ATP SYNTHASE BETA CHAIN."
 Site 206..213
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 /site_type="np-binding"
 /note="ATP (BY SIMILARITY)."
 Region 257..258
 /gene="ATP5B"
 /region_name="Conflict"
 /note="NL -> KV (IN REF. 3)."

Region 429..430
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 /region_name="Conflict"
 /note="QD -> HV (IN REF. 3)."

ORIGIN

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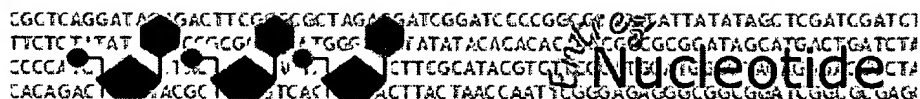
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Revised: July 5, 2002.

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Lib Name: Melton Mouse E16 5 Pancreas Library 2 M16B2
Organism: Mus musculus
Strain: ICR
Sex: Both
Organ: Pancreas
Tissue type: Total pancreas
Develop. stage: Embryonic day 16.5
Lab host: TOP10
Vector: pBluescript II SK
R. Site 1: NotI
R. Site 2: SalI
Description: Library constructed using SuperScript Plasmid Library kit (Life Technologies). cDNA made by oligo-dT priming. Size-selected by column fractionation; average insert size 1.06kb. Primary library, unamplified.

SUBMITTER

Name: Douglas Melton, Klaus H. Kaestner, & Hiroshi Inoue
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Fax: 617-495-8557
E-mail: dmelton@biohp.harvard.edu

CITATIONS

Title: Endocrine Pancreas Consortium
Authors: Melton,D., Brown,J., Kenty,G., Permutt,A., Lee,C., Kaestner
,K., Lemishka,I., Searce,M., Brestelli,J., Gradwohl,G.,
Clifton,S., Hillier,L., Marra,M., Pape,D., Wylie,T., Martin
,J., Blistain,A., Schmitt,A., Theising,B., Ritter,E., Ronko
,I., Bennett,J., Cardenas,M., Gibbons,M., McCann,R., Cole,R.
, Tsagareishvili,R., Williams,T., Jackson,Y., Bowers,Y.
Year: 2000
Status: Unpublished

MAP DATA

Revised: July 5, 2002.

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